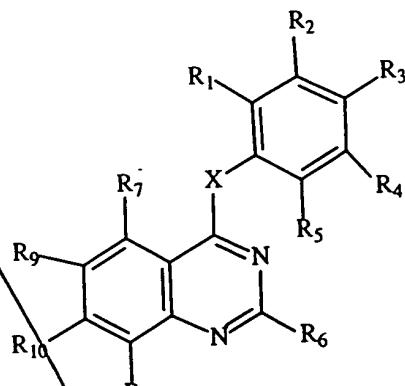


Claims

What is claimed is:

1.

A compound of formula I:



wherein:

X is HN, R₁₁N, S, O, CH₂, or R₁₁CH;

R₁₁ is hydrogen, (C₁-C₄)alkyl, or (C₁-C₄)alkanoyl;

R₁-R₈ are each independently hydrogen, hydroxy, mercapto, amino, nitro, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)alkylthio, or halo; wherein two adjacent groups of R₁-R₅ together with the phenyl ring to which they are attached may optionally form a fused ring, for example forming a naphthyl or a tetrahydronaphthyl ring; and further wherein the ring formed by the two adjacent groups of R₁-R₅ may optionally be substituted by 1, 2, 3, or 4 hydroxy, mercapto, amino, nitro, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)alkylthio, or halo; and

R₉ and R₁₀ are each independently hydrogen, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, halo, or (C₁-C₄)alkanoyl; or R₉ and R₁₀ together are

methylenedioxy; or a pharmaceutically acceptable salt thereof;

provided the compound is not 4-(4'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline.

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2. The compound of claim 1 wherein X is $R_{11}N$.

3. The compound of claim 1 wherein X is HN.

4. The compound of claim 1 wherein each of R_1 , R_2 , R_4 , R_5 , R_6 , R_7 , and R_{10} is H.

5. The compound of claim 1 wherein R_3 is (C_1 - C_4)alkoxy, hydroxy, nitro, halo, trifluoromethyl, or $NR_{12}R_{13}$ wherein R_{12} and R_{13} are each independently hydrogen, (C_1 - C_4)alkyl, (C_1 - C_4)alkenyl, (C_1 - C_4)alkynyl, (C_3 - C_8)cycloalkyl, or heterocycle.

6. The compound of claim 1 wherein R_3 is hydroxy.

7. The compound of claim 1 wherein R_2 or R_3 is hydroxy.

8. The compound of claim 1 wherein R_2 or R_3 is hydroxy; and one of R_1 - R_5 is halo.

9. The compound of claim 1 wherein R_2 or R_3 is hydroxy.

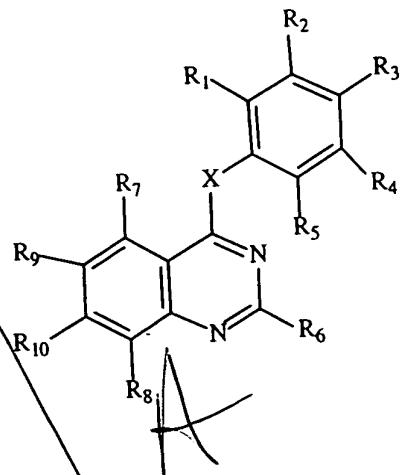
10. The compound of claim 1 wherein R_8 is (C_1 - C_4)alkoxy.

11. The compound of claim 1 wherein R_9 is (C_1 - C_4)alkoxy.

12. The compound of claim 1 which is 4-(3'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline; 4-(3',5'-dibromo-4'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline or 4-(3'-bromo-4'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline; or a pharmaceutically acceptable salt thereof.

13.

\A pharmaceutical composition comprising a compound of formula I:



wherein:

X is HN, R₁₁N, S, O, CH₂, or R₁₁CH;

R₁₁ is hydrogen, (C₁-C₄)alkyl, or (C₁-C₄)alkanoyl;

R_1-R_8 are each independently hydrogen, hydroxy, mercapto, amin

nitro, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)alkylthio, or halo; wherein two adjacent groups of R₁-R₅ together with the phenyl ring to which they are attached may optionally form a fused ring, for example forming a naphthyl or a tetrahydronaphthyl ring; and further wherein the ring formed by the two adjacent groups of R₁-R₅ may optionally be substituted by 1, 2, 3, or 4 hydroxy, mercapto, amino, nitro, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)alkylthio, or halo; and R₉ and R₁₀ are each independently hydrogen, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, halo, or (C₁-C₄)alkanoyl; or R₉ and R₁₀ together are methylenedioxy; or a pharmaceutically acceptable salt thereof; and a pharmaceutically acceptable carrier.

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The composition of claim 13 wherein R_2 or R_3 is hydroxy.

15.

The composition of claim 13 wherein R_2 or R_3 is hydroxy; and one of

R_1-R_5 is halo.

16. The composition of claim 13 wherein the compound of formula I is 4-(3'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline; 4-(3',5'-dibromo-4'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline or 4-(3'-bromo-4'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline; or a pharmaceutically acceptable salt thereof.

17. A pharmaceutical composition comprising 4-(4'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline; or a pharmaceutically acceptable salt thereof ; and a pharmaceutically acceptable carrier.

18. A therapeutic method for treating leukemia or lymphoma in a mammal comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

19. A therapeutic method for treating or preventing organ transplant rejection in a mammal comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

20. A therapeutic method for preventing or reducing ultraviolet B radiation-induced inflammatory response in a mammal comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

21. A therapeutic method for inhibiting the release of prostaglandin E₂ in a mammal comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

22. A therapeutic method for preventing or reducing UVB-induced skin edema or vascular permeability changes in a mammal comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

23. A therapeutic method for preventing or reducing ultraviolet B radiation-induced damage to epithelial cells or mutation frequency in skin in a mammal comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

24. A therapeutic method for protecting a mammal from tumorigenic effects of UVB light comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

25. A therapeutic method for inhibiting T-cell activity in a mammal comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

26. A therapeutic method for preventing or treating an autoimmune disease comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

27. A therapeutic method for preventing or treating graft-versus host disease comprising administering to the mammal in need thereof an effective amount of a JAK-3 inhibitor.

28. The method of any one of claims 18-27 wherein the compound is a compound of claim 1.

29. The method of any one of claims 18-27 wherein the JAK-3 inhibitor is 4-(4'-hydroxyl-phenyl)-amino-6,7-dimethoxyquinazoline; or a pharmaceutically acceptable salt thereof.

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